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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/618,115 | 07/10/2003 | Charles R. Weirauch | 200311928-1 | 4096 |
| 22879 7590 08/14/2009 HEWLETT-PACKARD COMPANY Intellectual Property Administration 3404 E. Harmony Road Mail Stop 35 FORT COLLINS, CO 80528 | | | | |
| EXAMINER | | | | |
| GOMA, TAWFIK A | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2627 | | | | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
| 08/14/2009 | | ELECTRONIC | | |

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/618,115
Filing Date: July 10, 2003
Appellant(s): WEIRAUCH, CHARLES R.

Mark E. Scott
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/29/2008 appealing from the Office action mailed 8/01/2008.

(1) Real Party in Interest

The statement of the real party in interest contained in the brief is correct.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

| | | |
|---------|-------|--------|
| 6600716 | Kondo | 7-2003 |
| 5119363 | Satoh | 6-1992 |

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the appellant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the appellant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Kondo (US 6600716).

Regarding claim 30, Kondo discloses an optical storage medium comprising: a disk-like body comprising a central aperture and a data area configured to store data in a binary format along circular tracks (fig. 6); a plurality of optically detectable marks on the disk-like body arranged in a curved pattern at least partially around the central aperture (508, fig. 6), the plurality of optically detectable marks outside the data area (2, fig. 6), and the plurality of optically detectable marks encode information in the sequentially arrangement of the marks along the curved pattern (fig. 5 and col. 12 lines 12-33); the plurality of optically detectable marks configured to be readable, as the disk-like body rotates, by both: an optical pickup unit configured to read a data area of an optical storage medium that cannot focus on the data area of the disk-like body (High Density Drive with a DVD disc, col. 11 lines 8-15); and an optical pickup unit configured to read a data area of an optical storage medium that can focus on the data area of the disk-like body (DVD drive with the DVD disc, col. 11 lines 8-15).

Regarding claim 31, Kondo further discloses wherein each optically detectable mark has radial size configured to be readable by the optical pickup unit in the absence of radial tracking (col. 12 lines 61-67 through col. 13 lines 1-6).

Regarding claim 32, Kondo further discloses wherein at least one optically detectable mark has a width, measured along the curved pattern, of from 1 to 3 millimeters (col. 13 lines 1-6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh (US 5119363) in view of Kondo (US 6600716)

Regarding claim 1, Satoh discloses an optical storage medium, comprising: a disk-like body (fig. 2); and at least one optically detectable mark on the disk-like body (fig. 5a). Satoh fails to disclose wherein the at least one optically detectable mark being readable by a plurality of different optical systems configured for different types of optical storage media. Satoh discloses wherein the marks can be read by an incoherent light source but fails to disclose marks that are readable by different optical systems (col. 5 lines 61-66 and col. 11 lines 3-16). In the same field of endeavor, Kondo discloses providing marks on a disc which are readable by different optical systems configured for different types of optical storage media (col. 18 lines 24-30).

It would have been obvious to one of ordinary skill in the art at the time of the appellant's invention to modify the marks of Satoh such that they are readable by different optical systems as in Kondo. The rationale is as follows: One of ordinary skill in the art at the time of the appellant's invention would have been motivated to have the marks readable by a plurality of different optical systems in order to eliminate a need for providing a separate optical sensor for reading the marks in each reading apparatus.

Regarding claim 2, Satoh discloses wherein the at least one optically detectable mark is located on a buried layer of the optical storage medium (9, fig. 6).

Regarding claim 3, Satoh further discloses wherein the buried layer is a non-data layer of the optical storage medium (fig. 11b). A data recording film is formed on top of the marks of Satoh in the embodiment of figure 11b.

Regarding claim 4, Satoh discloses wherein the buried layer is data layer of the optical storage medium (fig. 4 and col. 6 lines 11-25)).

Regarding claim 5, Satoh discloses wherein the at least one optically detectable mark is located on a surface of the optical storage medium (figs. 5a, 5b). The surface of the disk is indented with the marks.

Regarding claim 6, Satoh discloses wherein the at least one optically detectable mark is located within a non-user-data area of the optical storage medium (9, fig. 4, fig. 2).

Regarding claim 7, Satoh fails to disclose wherein the non-user data area comprises a lead-in area of the optical storage medium. Satoh discloses forming the marks on an inner periphery of the disc but fails to disclose wherein the inner periphery includes a lead-in area. In

the same field of endeavor, Kondo discloses a disc with a lead-in area with a mark formed in the lead-in area (col. 13 lines 8-10).

It would have been obvious to one of ordinary skill in the art at the time of the appellant's invention to place the mark in a lead-in area. The rationale is as follows: One of ordinary skill in the art at the time of the appellant's invention would have been motivated to provide the mark disclosed by Satoh in view of Kondo above in the lead-in area in order to set the proper mode for playback prior to reading the data area.

Regarding claim 8, Satoh fails to disclose wherein the disc includes a lead-out area. In the same field of endeavor, Kondo discloses providing a disc with a lead-out area which has a mark recorded in the lead-out area (col. 13 lines 8-10).

It would have been obvious to one of ordinary skill in the art at the time of the appellant's invention to modify the medium of Satoh by providing a lead-out area with detectable marks. The rationale is as follows: One of ordinary skill in the art at the time of the appellant's invention would have been motivated to provide a lead-out area with an optically detectable mark in order to provide a guard area for the disk.

Regarding claim 9, Satoh discloses wherein the at least one optically detectable mark is uniform in width along an axis coinciding with a radius of the optical storage medium (W, fig. 4).

Regarding claim 10, Satoh discloses wherein the at least one optically detectable mark is shaped approximately like a sector of an annulus (figs. 5a, 5b).

Regarding claim 11, Satoh discloses wherein the detectable has a trapezoidal shape (fig. 5a).

Regarding claim 12, Satoh discloses a method for determining the type of an optical storage medium (col. 5 lines 61-66 and col. 11 lines 3-16), comprising: reading, from the optical storage medium using an optical system (col. 9 lines 8-10), at least one optically detectable and interpreting the at least one optically detectable mark to identify the type of the optical storage medium (col. 11 lines 3-16). Satoh fails to disclose wherein the at least one optically detectable mark being readable by a plurality of different optical systems configured for different types of optical storage media. Satoh discloses wherein the marks can be read by an incoherent light source but fails to disclose marks that are readable by different optical systems (col. 5 lines 61-66 and col. 11 lines 3-16). In the same field of endeavor, Kondo discloses providing marks on a disc which are readable by different optical systems configured for different types of optical storage media (col. 18 lines 24-30).

It would have been obvious to one of ordinary skill in the art at the time of the appellant's invention to modify the marks of Satoh such that they are readable by different optical systems as in Kondo. The rationale is as follows: One of ordinary skill in the art at the time of the appellant's invention would have been motivated to have the marks readable by a plurality of different optical systems in order to eliminate a need for providing a separate optical sensor for reading the marks in each reading apparatus.

Regarding claim 13, Satoh discloses wherein the optical storage medium comprises a circular disc and the at least one optically detectable mark comprises a band of optically detectable marks disposed around a circle concentric with the circumference of the optical storage medium (figs. 5A, 5b and M1-M8 fig. 8).

Regarding claim 14, Satoh discloses wherein the optically detectable marks comprising the band are uniformly spaced (q2, fig. 9a, 9b).

Regarding claim 15, Satoh discloses wherein the optically detectable marks comprising the band are spaced sufficiently far apart to be detectable by an optical system achieving a predetermined largest expected focus spot (col. 1 lines 66 thru col. 2 lines 1-3). Satoh uses the index marks in order to reduce the effect of having to use a tiny light spot for detection.

Regarding claim 16, Satoh discloses wherein interpreting the at least one optically detectable mark to identify the type of the optical storage medium comprises measuring the spacing of the optically detectable marks comprising the band (col. 6 lines 37-56).

Regarding claim 17, Satoh discloses wherein interpreting the at least one optically detectable mark to identify the type of the optical storage medium comprises measuring at least one dimension of the at least one optically detectable mark (col. 6 lines 49-56).

Regarding claim 18, Satoh fails to particularly disclose wherein the type is at least one of CD, DVD, Blu-ray and AOD. In the same field of endeavor, Kondo discloses wherein the marks are formed on a CD and DVD (col. 4 lines 36-48).

It would have been obvious to one of ordinary skill in the art at the time of the appellant's invention to provide the marks on a CD and DVD. The rationale is as follows: One of ordinary skill in the art at the time of the appellant's invention would have been motivated to provide the marks on a CD and DVD in order to have the marks be used with the most common types of optical storage media.

Regarding claims 27 and 29, Satoh discloses an optical device, comprising: an optical system to read (fig. 10), from an optical storage medium (fig. 11a) at least one optically

detectable mark (fig. 12), and logic configured to interpret the at least one optically detectable mark (col. 5 lines 61-66 and col. 11 lines 3-16). Satoh fails to disclose wherein the at least one optically detectable mark being readable by a plurality of different optical systems configured for different types of optical storage media. Satoh discloses wherein the marks can be read by an incoherent light source but fails to disclose marks that are readable by different optical systems (col. 5 lines 61-66 and col. 11 lines 3-16). In the same field of endeavor, Kondo discloses providing marks on a disc which are readable by different optical systems configured for different types of optical storage media (col. 18 lines 24-30).

It would have been obvious to one of ordinary skill in the art at the time of the appellant's invention to modify the marks of Satoh such that they are readable by different optical systems as in Kondo. The rationale is as follows: One of ordinary skill in the art at the time of the appellant's invention would have been motivated to have the marks readable by a plurality of different optical systems in order to eliminate a need for providing a separate optical sensor for reading the marks in each reading apparatus.

Regarding claim 28, Satoh fails to particularly disclose wherein the optical device is at least one of CD, DVD, Blu-ray, AOD and computer optical drive device. In the same field of endeavor, Kondo discloses wherein the marks are used with a CD and DVD device (col. 4 lines 36-48).

It would have been obvious to one of ordinary skill in the art at the time of the appellant's invention to use the marks with a CD and DVD device. The rationale is as follows: One of ordinary skill in the art at the time of the appellant's invention would have been motivated to

use the marks with a CD and DVD in order to have the marks be used with the most common types of optical storage media.

(10) Response to Argument

Appellant's arguments filed 9/29/2008 in the Appeal Brief have been fully considered but they are not persuasive.

A. Section 102 Rejections over Kondo

1. Claims 30-32

Claims 30-32 stand rejected as anticipated by Kondo. Kondo discloses a first embodiment (figure 3 and col. 9 lines 26-67 through col. 11 lines 1-15) which provides an environmental load information (101) area formed as a curved pattern around the central aperture and having marks readable by different optical units as claimed, and a fifth embodiment (fig. 6) having environmental load information (508) recorded in an engraving area also readable by different optical units as claimed. Each of the two of the embodiments independently discloses the claimed limitations of independent claim 30.

a. Kondo First Embodiment

With respect to appellant's arguments pertaining to Kondo's first embodiment, that Kondo's marks in area 101 are formed in the main information area 102 and are therefore not outside the data area (Appeal Brief, page 12, Third Paragraph), these arguments are not persuasive for the following reasons: First, Kondo discloses that the environmental load information area 101 can be "arbitrarily located" or formed in any area on the disc (col. 9 lines 51-54). Appellant relies on Kondo's example of providing the area 101 within the main

information area 102 as a limiting disclosure of Kondo which would always require the area 101 within the main information area 102. In view of Kondo's explicit disclosure of also "arbitrarily" locating or positioning the environmental load information, this argument is not persuasive. Secondly, Kondo's disclosure of providing the environmental load information area 101 within the main information area 102 meets the claimed limitations. Appellant relies on the claimed limitation "the plurality of optically detectable marks outside the data area," in order to show that Kondo's disclosure of an environmental load information area 101 within a main information area 102 fails to meet the claim. This argument is not persuasive, however, because the "data area" of Kondo is the area of main information area which does not include the environmental load information 101. That is, although Kondo describes the main information area to include the environmental load information area 101, Kondo also distinguishes between the data contained in the main information area 102 that is not the environmental load information contained in area 101. The area of main information which does not include the environmental load information is the "data area" of the Kondo disc, and the environmental load information area 101 is outside this "data area."

With respect to appellant's argument that the optical systems discussed in Kondo's first embodiment is not a disclosure of a marks readable by both an optical unit that can focus on the data area and an optical unit that cannot focus on the data area as claimed (Appellant's Arguments, Page 13, Second Paragraph), this argument is not persuasive. First, appellant contends that the DVD apparatus of Kondo and the HD DVD apparatus of Kondo use the same wavelength, and are therefore not different optical pickup units (Appeal Brief, Page 13, lines 9-10 and lines 21-24 with emphasis on optical pickup unit in the claim). Appellant has

misunderstood the relevant portion of Kondo's disclosure (col. 11 lines 8-15) to mean that a wavelength of 350 -550 nm light is used for both the HD DVD and DVD apparatus. Kondo's reference to a wavelength of 350 nm -550 nm is only a reference to the wavelength employed in an HD-DVD system (DVD systems use a wavelength of 650 nm or greater as is well known to one of ordinary skill in the art).

Appellant further contends that since Kondo discloses that both the DVD and HD systems can focus on main information area, that Kondo does not disclose the marks being readable by an optical unit which cannot focus on the data area as claimed. However, this is contrary to Kondo's disclosure, which explicitly discusses recording the environmental load information with a DVD apparatus, such that it can be read by both the DVD apparatus and an HD-DVD apparatus, even in the case when the "data area" of the disc is recorded using an HD-DVD apparatus (col. 11 lines 3-15).

b. Kondo Fifth Embodiment

With respect to appellant's argument pertaining to Kondo's fifth embodiment that Kondo fails to teach that the marks in the engraving area 508 can be read by an optical unit which can read information from the data area of the disc (Appeal Brief, Page 12, Second Paragraph), this argument is not persuasive. Appellant contends that the engraving area of Kondo is disclosed to be readable only visually, but a CCD array or otherwise. However, Kondo does not limit the reproduction of the environmental load information of the fifth embodiment to be read by systems only visually. That is, while Kondo discloses that the marks are readable visually, Kondo does not preclude the use of the inherent reproducing apparatus to read the marks (col. 14 lines 41-46). Kondo also discloses that the method of recording the marks can be a method of

cutting the disc (forming physical marks in the disc using a stamper or punch pressing the disc), such that a visible letter can be formed or the marks can also be readable by the reproducing apparatus (col. 14 lines 26-30).

A. Section 103 Rejections over Satoh and Kondo

1. Claims 1-18 and 27-29

Regarding appellant's argument that the combination of Satoh and Kondo cannot be made because the marks of Kondo require that they be reproduced without rotation, while the marks of Satoh require rotation for reproduction, this argument is not persuasive. The marks of Kondo do not require that they be reproduced without rotation. Kondo simply discloses that the marks *can* be read by a barcode reader without rotation (col. 18 lines 24-30). Kondo further discloses that the same marks can be read by an optical head or a CCD (Eight Embodiment, col. 18 lines 25-27). In the case of using an optical head, rotation is inherently required for the pickup to read the marks. Kondo also discloses marks which can be read by a system configured for a DVD disc, or a system configured for a high density disc as discussed above with respect to the First Embodiment (col. 11 lines 3-15) with rotation (col. 21 lines 16-45). Nowhere does the Kondo reference limit the reproduction of the marks such that the disc is not rotated during reproduction as asserted by appellant. Kondo only discloses that the disc would not have been rotated when reading the marks using the bar code reader. Furthermore, it is important to note, that the claims referenced do not require the marks to be read while rotating the disc. Therefore, even if the marks of Kondo wholly replace the marks of Satoh in the combination, and are read without rotation, the claimed limitations would still be met.

Furthermore, in response to appellant's argument that the index marks of Satoh would also have to included in a disc having environmental load information as in Kondo, this argument is not persuasive because the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

2. Claims 1-18 and 27-29

Appellant's argument that the Satoh reference disclosed use of a "tiny optical spot" does not meet the limitation which requires the marks to be spaced far apart to be detectable by an optical system achieving a predetermined largest expected focus spot, is not persuasive. Satoh's marks are a solution to the problem which was previously faced by using marks that required a tiny optical spot in order to focus. The relevant portion which is relied upon is a discussion of the problem of having to use a tiny optical spot in the previous systems due to the formation of the marks. The Satoh system solves this problem by providing marks that are sufficiently spaced, such that a tiny optical spot is not required to focus on the marks (col. 2 lines 46-51).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Art Unit: 2627

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Tawfik Goma/
Examiner, Art Unit 2627

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